



STIC Search Report

EIC 2100

STIC Database Tracking Number: 140010

TO: Neveen Abel-Jalil
Location: rnd 3a20
Art Unit : 2165
Friday, December 17, 2004

Case Serial Number: 09/995966

From: David Holloway
Location: EIC 2100
RND 4B19
Phone: 2-3528

david.holloway@uspto.gov

Search Notes

Dear Examiner Abel-Jalil,

Attached please find your search results for above-referenced case.
Please contact me if you have any questions or would like a re-focused search.

David



14000

62

STIC EIC 2100 Search Request Form

Today's Date: 12/10/04

What date would you like to use to limit the search?

Priority Date: 11/28/01 Other:

Name NEVEEN ABEL-JALIL

Format for Search Results (Circle One):

AU 2165 Examiner # 79755

PAPER ☐ DISK ☐ EMAIL

Room # 3A20 ^{RND} Phone 571-272-4074

Where have you searched so far?

Serial # 09/995, 966 ^{sup ID} 79955

☒ USP ☐ DWPI ☐ EPO ☐ JPO ☐ ACM ☐ IBM ☐ TDB

☐ IEEE ☐ INSPEC ☐ SPI Other _____

Is this a "Fast & Focused" Search Request? (Circle One) YES ☐ NO

A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at <http://ptoweb/patents/stic/stic-tc2100.htm>.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

Need NPL Search on claim 24 ~~specifically~~
Group Items updates Based on Item Availability updates
with FIFO given
Time Buckets
Suspended / cancelled sale
sources of Item

12-10-04ATS:50 RC15

STIC Searcher David Holloway Phone 2-3528

Date picked up 12-16-04 Date Completed 12-17-04



DIAG 6
LWL

Set	Items	Description
S1	308972	(SINGLE? OR INDIVIDUAL? OR SOLE? OR ONE OR ONLY OR LAST OR FIRST) (3N) (ITEM? OR UNIT OR UNITS OR PRODUCT OR PRODUCTS OR MERCHANDISE? OR GOOD OR GOODS OR DEVICE?)
S2	150386	TIMEBUCKET? OR TIME() (BUCKET? OR PERIOD? OR INTERVAL? OR DURATION?)
S3	107538	FIFO OR FIRST(N)OUT OR LIFO OR QUEUE?
S4	8672136	AVAILAB? OR REPLENISH? OR SUSPEND? OR OUT OR ERROR? OR SOURCE? OR EXHAUST? OR EMPTY? OR STATUS OR "IN"() STOCK
S5	6876	JIT OR JUST(N)TIME
S6	9977	S1(10N) (GROUP? ? OR PRODUCTION()RUN? ? OR CLUSTER? OR BUNCH? OR LOT OR LOTS OR BATCH? OR BUNDLE?)
S7	89226	(INVENTORY OR INVENTORIES OR STOCK? ? OR SUPPLY()CHAIN? OR JIT OR JUST(N)TIME) (3N) (CONTROL? OR SOFTWARE? OR PROGRAM? OR MANAGE? OR ADMINIST? OR PROGRAM? OR APPLICATION?)
S8	68	S6 AND S2
S9	24	S8 AND (S3 OR S4 OR S7)
S10	275	S6 AND S7
S11	27	S10 AND (S2 OR S3 OR S5)
S12	0	S2 AND S3 AND S4 AND S5
S13	329	S2 AND S3 AND S4
S14	25	S2 AND S3 AND S7
S15	345	S3 AND S4 AND S7
S16	7	S13 AND S15
S17	65	S16 OR S14 OR S11 OR S9
S18	41	RD (unique items)
S19	34	S18 NOT PY>2001
S20	34	S19 NOT PD>20011128
File	8: Ei	Compendex(R) 1970-2004/Dec W1 (c) 2004 Elsevier Eng. Info. Inc.
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File	62: SPIN(R)	1975-2004/Oct W2 (c) 2004 American Institute of Physics
File	99: Wilson Appl.	Sci & Tech Abs 1983-2004/Nov (c) 2004 The HW Wilson Co.
File	95: TEME-Technology & Management	1989-2004/Jun W1 (c) 2004 FIZ TECHNIK
File	583: Gale Group	Globalbase(TM) 1986-2002/Dec 13 (c) 2002 The Gale Group
File	474: New York Times	Abs 1969-2004/Dec 16 (c) 2004 The New York Times
File	475: Wall Street Journal	Abs 1973-2004/Dec 16 (c) 2004 The New York Times

20/5/3 (Item 3 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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05537508 E.I. No: EIP00045138208

Title: Scheduling problem for a pull manufacturing system: how to modify the c mu -rule for finite buffer capacities

Author: Martinelli, Francesco; Valigi, Paolo

Corporate Source: Universita di Roma 'Tor Vergata', Roma, Italy

Conference Title: The 38th IEEE Conference on Decision and Control (CDC)

Conference Location: Phoenix, AZ, USA Conference Date: 19991207-19991210

Sponsor: IEEE/CSS

E.I. Conference No.: 56548

Source: Proceedings of the IEEE Conference on Decision and Control v 3 1999. IEEE, Piscataway, NJ, USA. p 2264-2269

Publication Year: 1999

CODEN: PCDCDZ ISSN: 0191-2216

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)

Journal Announcement: 0006W1

Abstract: In this paper we consider a scheduling problem for a pull manufacturing system with constant demand rates. The system comprises a reliable single machine which can provide service to two different part types, with negligible set-up times and costs. Backlogged requests and finite goods incur a cost, linear in the backlog and inventory levels, which must be minimized over an infinite **time interval**. If buffer capacities are infinite, a dynamic version of the well known c mu rule solves the problem: the objective of this paper is to analyze how the c mu rule must be modified to deal with the finite buffer capacity case. (Author abstract) 14 Refs.

Descriptors: *Scheduling; Flexible manufacturing systems; Resource allocation; Machinery; Optimization; Costs; **Inventory control**; Algorithms; **Queueing** theory

Identifiers: Pull manufacturing system; Buffer capacity; Inventory cost; Set up times

Classification Codes:

913.4.1 (Flexible Manufacturing Systems)

912.2 (Management); 913.4 (Manufacturing); 921.5 (Optimization Techniques); 911.1 (Cost Accounting); 911.3 (Inventory Control); 723.1 (Computer Programming)

912 (Industrial Engineering & Management); 913 (Production Planning & Control); 921 (Applied Mathematics); 911 (Industrial Economics); 723 (Computer Software)

91 (ENGINEERING MANAGEMENT); 92 (ENGINEERING MATHEMATICS); 72 (COMPUTERS & DATA PROCESSING)

20/5/6 (Item 6 from file: 8)
DIALOG(R)File 8:EI Compendex(R)
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04486764 E.I. No: EIP96093304244

Title: User interactive heuristic procedure for solving the multiple product cycling problem

Author: Sandbothe, Richard A.

Corporate Source: Daemen Coll, Amherst, NY, USA

Source: Computers & Operations Research v 23 n 9 Sep 1996. p 897-907

Publication Year: 1996

CODEN: CMORAP ISSN: 0305-0548

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9610W5

Abstract: In this paper we consider a lot-sizing model for the manufacture and storage of several products that require processing on a machine with limited production capacity. In addition, the machine can only be dedicated to producing one of these products in a **time period** and a fixed changeover cost is incurred whenever the machine changes from the production of one product to the production of a different product. A procedure is presented which uses a modified run- **out** time method to select which product to process next and a **single product** heuristic algorithm as the lot -sizing module for the selected product. The user is actively involved in resolving infeasibilities and in generating alternate feasible solutions. The procedure was tested on a set of 48 test problems. Each problem was 15 periods in length and consisted of either 2, 3, or 5 products. The best feasible solutions averaged 8.5% above the optimum with a mean CPU solution time of 3.29 s. (Author abstract) 12 Refs.

Descriptors: *Production; Heuristic methods; Mathematical models; Scheduling; Machinery; Storage (materials); Algorithms; Costs; Computational complexity

Identifiers: Multiple product cycling problem; Modified run **out** time method; Cost function

Classification Codes:

913.1 (Production Engineering); 921.5 (Optimization Techniques); 921.6 (Numerical Methods); 912.2 (Management); 694.4 (Storage); 723.1 (Computer Programming)

913 (Production Planning & Control); 921 (Applied Mathematics); 912 (Industrial Engineering & Management); 694 (Packaging & Storing); 723 (Computer Software)

91 (ENGINEERING MANAGEMENT); 92 (ENGINEERING MATHEMATICS); 69 (MATERIALS HANDLING); 72 (COMPUTERS & DATA)

20/5/7 (Item 7 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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04346410 E.I. No: EIP96023025408

Title: Logistical management system using calculated raw-process-time factors for production control

Author: Holmes, Joseph W.

Corporate Source: IBM Microelectronics Div, Essex Junction, VT, USA

Conference Title: Proceedings of the 1995 6th Annual SEMI/IEEE Advanced Semiconductor Manufacturing Conference and Workshop (ASMC)

Conference Location: Cambridge, MA, USA Conference Date: 19951113-19951115

Sponsor: IEEE

E.I. Conference No.: 44306

Source: IEEE/SEMI Advanced Semiconductor Manufacturing Conference and Workshop 1995. IEEE, Piscataway, NJ, USA, 95CB35811. p 127-130

Publication Year: 1995

CODEN: IASPFQ

Language: English

Document Type: CA; (Conference Article) Treatment: G; (General Review); T; (Theoretical)

Journal Announcement: 9604W1

Abstract: In 1990, the IBM semiconductor manufacturing facility in Essex Junction, Vermont, fabricated two basic types of memory products in one of its fabricators with a 'first-in first-out' (FIFO) system for tracking individual wafer lots. When additional products in different technologies came on line, a 'pull range system' was used to divide wafer processing into 24-hour segments. These ranges consisted of one to ten operations that were scheduled for completion in one day. By early 1993, the number of different products being produced at this semiconductor manufacturing facility increased significantly, exceeding the ability of production operators to view and manage these pull ranges. This paper describes a logistical management system that uses a calculated raw-process-time factor to control product. The system, installed on the wafer processing line, focuses on a stock date and raw processing data to organize and prioritize all product lots into one system. The stock date describes when a particular product lot is due, while the raw processing time defines the amount of time required to process a lot from beginning to end. This system has helped to maintain fabricator serviceability ratings in the high 90% range and is available to all operators, especially those processing lots that require the most attention (those behind schedule). Data derived from the system describes wafer-lot priorities and the order in which the lots must be run. The system prioritizes all lots being processed for each operation, thereby enabling operators to simply 'run the top lot'. (Author abstract)

Descriptors: *Semiconductor device manufacture; Production control ; Industrial management ; Inventory control ; Scheduling

Identifiers: Logistical management system; First in first out (FIFO) system; Wafer lot priorities

Classification Codes:

714.2 (Semiconductor Devices & Integrated Circuits); 913.2 (Production Control); 912.2 (Management); 911.3 (Inventory Control)

714 (Electronic Components); 913 (Production Planning & Control); 912 (Industrial Engineering & Management); 911 (Industrial Economics)

71 (ELECTRONICS & COMMUNICATIONS); 91 (ENGINEERING MANAGEMENT)

20/5/8 (Item 8 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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04124594 E.I. No: EIP95032646110

Title: **Production control for just-in-time tool-and-die manufacturing**

Author: Mukherjee, Amit; Nof, S.Y.

Corporate Source: Purdue Univ, West Lafayette, IN, USA

Source: Production Planning and Control v 6 n 1 Jan-Feb 1995. p 80-95

Publication Year: 1995

CODEN: PPCOEM ISSN: 0953-7287

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); T;
(Theoretical); M; (Management Aspects)

Journal Announcement: 9505W5

Abstract: In the production control for unit-based manufacturing systems where the production **batch** size of the final **product** is **one** or two, the **product** custom is designed and is made up of numerous individual components with similar process routings for tool-and-die. Algorithms to generate master production schedules were developed. Kanban-based just-in-time (**JIT**) shopfloor **control** and purchasing system were applied and results were evaluated. A computer integrated manufacturing (CIM) software is used to apply the **JIT** -based production **control** . The relationship between research and industrial applications of production control is shown. 9 Refs.

Descriptors: *Just in time production; Scheduling; Purchasing; Strategic planning; Algorithms; Mathematical models; Computer integrated manufacturing; **Inventory control**

Identifiers: Tool and die manufacture; Shopfloor control; Kanban-based just in time production

Classification Codes:

913.4.2 (Computer Aided Manufacturing)

913.2 (Production Control); 912.2 (Management); 921.6 (Numerical Methods); 913.4 (Manufacturing); 731.3 (Specific Variables Control)

913 (Production Planning & Control); 912 (Industrial Engineering & Management); 921 (Applied Mathematics); 731 (Automatic Control Principles)

91 (ENGINEERING MANAGEMENT); 92 (ENGINEERING MATHEMATICS); 73 (CONTROL ENGINEERING)

20/5/9 (Item 9 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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03471660 E.I. Monthly No: EIM9208-040983

Title: Single facility, multi-item lot sizing under just-in-time and 'cyclic scheduling for improvement'.

Author: Ramani, S.; Narayanan, N.

Corporate Source: Natl Inst for Training in Industrial Engineering, Bombay, India

Conference Title: 6th International Symposium on Inventories

Conference Location: Budapest, Hung Conference Date: 19900800

E.I. Conference No.: 16517

Source: International Journal of Production Economics v 26 n 1-3 Feb 1992. p 333-339

Publication Year: 1992

CODEN: IJPEE6 ISSN: 0925-5273

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9208

Abstract: In recent years some of the models for Economic Lot Scheduling Problem (ELSP) have been extended to incorporate Just-in-Time (JIT) concepts, by allowing setup costs, setup times and capacity, to be decision variables. All these models result in some forms of cyclic schedules. Hall (1988) proposes 'cyclic scheduling for improvement' as a central theme under Just-in-Time and recommends a continual 'cycle time analysis for improvement'. This paper presents expanded economic lot scheduling models based on Common Cycle Policy under the framework of 'cycle time analysis for improvement', and proposes a step-by-step procedure for such an analysis, using the various models. The procedure is illustrated with a numerical example. (Author abstract) 8 Refs.

Descriptors: *INVENTOR Y CONTROL --*Optimization; INVENTORY CONTROL --Scheduling; JUST-IN-TIME PRODUCTION; PRODUCTION CONTROL--Operations Research

Identifiers: JIT ; MULTIITEM LOT SIZING; CYLIC SCHEDULING

Classification Codes:

911 (Industrial Economics); 921 (Applied Mathematics); 922 (Statistical Methods); 913 (Production Planning & Control); 912 (Industrial Engineering & Management)

91 (ENGINEERING MANAGEMENT); 92 (ENGINEERING MATHEMATICS)

20/5/10 (Item 10 from file: 8)
DIALOG(R)File 8:EI Compendex(R)
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01968356 E.I. Monthly No: EI8605042374 E.I. Yearly No: EI86096503
Title: QUALITY CONTROL CIRCLES: A VEHICLE FOR JUST-IN-TIME
IMPLEMENTATION.

Author: Sepehri, Mehran
Corporate Source: California State Univ, Long Beach, CA, USA
Source: Quality Progress v 18 n 7 Jul 1985 p 21-24
Publication Year: 1985
CODEN: QUPRB3 ISSN: 0033-524X
Language: ENGLISH
Document Type: JA; (Journal Article) Treatment: A; (Applications); M;
(Management Aspects)
Journal Announcement: 8605

Abstract: To regain their international competitiveness in manufacturing and to eliminate waste from the manufacturing floor, leading Western manufacturers have set out to achieve just-in-time (JIT) material flow and production. The ideal for ultimate flexibility is for setup to be accomplished within the allowable production time for **one unit** , and for **lot** size to be **one unit** . However, JIT is a way of life in manufacturing; before it can be accomplished, there must be a companywide change of attitudes and processes. QC circles can be a key element in implementing JIT production. QC circles in Japanese plants are a way of wringing the last problems out of production systems already achieving outstanding quality. 8 refs.

Descriptors: *QUALITY CONTROL ; INVENTORY CONTROL
Identifiers: QUALITY CONTROL CIRCLES; JUST-IN-TIME PRODUCTION
Classification Codes:
913 (Production Planning & Control); 911 (Industrial Economics)
91 (ENGINEERING MANAGEMENT)

20/5/14 (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01351187 ORDER NO: AAD94-11319

THE MULTI-ITEM LOT SIZING PROBLEM WITH JOINT REPLENISHMENTS

Author: RAGHAVAN, PARTHASARATHI

Degree: PH.D.

Year: 1993

Corporate Source/Institution: NEW YORK UNIVERSITY, GRADUATE SCHOOL OF
BUSINESS ADMINISTRATION (0868)

Adviser: MENDU RAMMOHAN RAO

Source: VOLUME 54/11-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 5922. 127 PAGES

Descriptors: OPERATIONS RESEARCH

Descriptor Codes: 0796

This dissertation addresses a commonly encountered **inventory control** problem in which a family of products share a common cost of **replenishment** or a joint fixed cost. Apart from the joint cost of **replenishment**, an individual fixed cost for each item, in every period, is incurred only if the item is ordered in that period. Finally, there are marginal costs for ordering and for holding inventory for every item, that may also vary over time. Given a demand forecast for every item in the family over a planning horizon of discrete **time periods**, the objective is to determine an optimal lot schedule, that specifies the quantity of every product to order and the **time period** in which it should be ordered. A lot schedule is said to be optimal, if it results in a minimum total cost over the entire horizon.

The dissertation reports an application of the polyhedral approach to the multi-item lot sizing problem with joint **replenishments**. The version of the problem with backordering allowed is also addressed. The \mathbb{S}^n inequalities that have been shown to be facet defining for the **single item lot sizing** problem define facets of the convex hull of the feasible solutions to the multi-item lot sizing problem with joint **replenishments**. Further, a new class of valid inequalities and facets, which combine the \mathbb{S}^n inequalities for different items is presented. For the uncapacitated lot sizing problem for a **single item** when backlogging is allowed, a new class of valid inequalities and facets, based on fixed charge network flows is presented. The class of valid inequalities are valid for the multi-item problem and the facets for the single item problem are facet defining for the multi-item problem. An operation by which two facets can be composed to yield a third facet is proposed. A heuristic (partial) separation algorithm is obtained. For large instances of the problem, a branch and cut procedure was implemented. Problems with as many as fifty items and thirty **time periods** were solved to optimality.

As an alternative to the above approach, the multi-commodity formulation of the problem was also investigated. This formulation was shown to be equivalent to the original formulation along with the \mathbb{S}^n inequalities. Based on an observation of the structure of the dual matrix, a Dantzig-Wolfe decomposition is proposed for this formulation. Computational experiments show that this approach has significant advantages relative to the cutting plane algorithm when the number of products is large relative to the number of **time periods**. Problems with as many as hundred items and forty **time periods** were solved to optimality with the decomposition approach.

20/5/16 (Item 4 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01193975 ORDER NO: AAD92-00629

MULTISTAGE PERISHABLE INVENTORY SYSTEMS (INVENTORY MANAGEMENT)

Author: GOH, CHON-HUAT

Degree: PH.D.

Year: 1991

Corporate Source/Institution: THE UNIVERSITY OF TEXAS AT AUSTIN (0227)

Supervisors: HIROFUMI MATSUO; BETSY GREENBERG

Source: VOLUME 52/07-A OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 2626. 122 PAGES

Descriptors: BUSINESS ADMINISTRATION, MANAGEMENT; OPERATIONS RESEARCH

Descriptor Codes: 0454;. 0796

Our study of multistage perishable inventory systems is motivated by the **inventory management** of blood banks. Blood becomes unacceptable for transfusion 42 days after it is drawn. Although the blood donated within 42 days can be utilized, the quality of blood does not remain the same for the entire 42 days. Therefore, certain procedures such as heart transplants require that blood be fresh, usually 10 days old or less.

In our study, we consider a two-stage perishable inventory system. The first stage represents the inventory of fresh items and the second stage represents the inventory of older items that are still usable. Fresh items in the first stage that are not used within a prespecified period will be transferred to the second stage. Older items in the second stage will perish if they are not requested within a prespecified period. We assume that the requests for inventory will specify whether (a) fresh units are required, or (b) older units are acceptable. The issuing policy is **first-in- first - out** for items in both stages. We consider two policies. The first policy is a restricted policy where the requests for older items can only be satisfied by the items in the second stage. The second policy is an unrestricted policy where the requests for older items can be satisfied by items in the first stage, but only when there is no inventory in the second stage. For each policy, we provide a good analytical approximation of the performance of the system.

We also analyze two single stage systems. In the first system, we consider the case where both arrivals and requests consist of batches of items. We provide closed-form solutions for the first and second moments of the times between two successive shortage events and between two successive spoilage of donations. In the second system, arrivals consist of **batches** of items but requests consist of **single units**. We provide the closed-form solutions of two additional performance measures of the system.

20/5/20 (Item 1 from file: 2)
DIALOG(R) File 2:INSPEC
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7038116 INSPEC Abstract Number: C2001-10-7180-034

Title: Inventory of multi-deteriorating items sold from two shops under single management with constraints on space and investment

Author(s): Kar, S.; Bhunia, A.K.; Maiti, M.

Author Affiliation: Haldia Inst. of Technol., Midnapore, India

Journal: Computers & Operations Research vol.28, no.12 p.1203-21

Publisher: Elsevier,

Publication Date: 1 Oct. 2001 Country of Publication: UK

CODEN: CMORAP ISSN: 0305-0548

SICI: 0305-0548(20011001)28:12L:1203:IMDI;1-R

Material Identity Number: C175-2001-008

U.S. Copyright Clearance Center Code: 0305-0548/2001/\$20.00

Document Number: S0305-0548(00)00034-4

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P).

Abstract: The authors propose an inventory model for several continuously deteriorating items sold from two shops: primary and secondary shops, under single management dealing with limitations on investment and total floor-space area. Initially items are purchased in **lots** and received at the primary shop, then fresh and deteriorated **units** are separated, **only** the fresh **units** are sold from the primary shop with a profit and its demand is a deterministic linear function of instantaneous stock level and the selling price of the units. The deteriorated units are transferred to the adjacent secondary shop for sale at a reduced price and the demand for these units is linearly proportional to the selling price only. In both the shops, shortages are not allowed. There may be six scenarios depending upon the **time periods** of two shops and altogether there will be $6/\sup n/(n \geq 2)$ different cases for n items. In each case, optimum order quantities are evaluated, maximizing the corresponding average profit function. Models are illustrated with numerical examples for two items only. (19 Refs)

Subfile: C

Descriptors: constraint theory; costing; optimisation; retail data processing; **stock control** data processing

Identifiers: multi-deteriorating item inventory; single management; space constraints; investment constraints; inventory model; continuously deteriorating items; secondary shop; primary shop; investment; total floor-space area; fresh units; deterministic linear function; instantaneous stock level; selling price; deteriorated units; **time periods**; optimum order quantities; average profit function; numerical examples

Class Codes: C7180 (Retailing and distribution computing); C1290D (Systems theory applications in economics and business); C7120 (Financial computing); C1180 (Optimisation techniques)

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20/5/22 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC
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5433053 INSPEC Abstract Number: C9701-1290F-074

Title: A general approximation for the single product lot sizing model with queueing delays

Author(s): Lambrecht, M.R.; Vandaele, N.J.

Author Affiliation: Dept. of Appl. Econ., Katholieke Univ., Leuven, Belgium

Journal: European Journal of Operational Research vol.95, no.1 p. 73-88

Publisher: Elsevier,

Publication Date: 22 Nov. 1996 Country of Publication: Netherlands

CODEN: EJORDT ISSN: 0377-2217

SICI: 0377-2217(19961122)95:1L.73:GASP;1-1

Material Identity Number: E272-96023

U.S. Copyright Clearance Center Code: 0377-2217/96/\$15.00

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: The objective of this paper is to derive a general approximation for the single product lot sizing model with queueing delays, explicitly including a non-zero setup time. Most research focuses on bulk (batch) arrival and departure processes. In this paper we assume an individual arrival and departure process allowing the modelling of more realistic demand patterns. A general approximation of the expected lead time and the variance of the lead time is derived. The lead time probability distribution is approximated by means of a lognormal distribution. This allows the manufacturer to quote lead times satisfying a specified customer service level as a function of the lot size. The main result is a convex relationship of the expected lead time and the quoted lead time as a function of the lot size. The results are illustrated by means of numerical examples. (26 Refs)

Subfile: C

Descriptors: log normal distribution; production control; queueing theory; stock control

Identifiers: general approximation; single product lot sizing model ; queueing delays; bulk arrival; batch arrival; departure processes; demand patterns; variance; lead time probability distribution; lognormal distribution

Class Codes: C1290F (Systems theory applications in industry); C1140C (Queueing theory)

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20/5/24 (Item 5 from file: 2)

DIALOG(R) File 2:INSPEC

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4435721 INSPEC Abstract Number: C9308-1290F-044

Title: Comments on 'the two- product , single -machine, static demand, infinite horizon lot scheduling problem'

Author(s): Chen Shaoxiang

Author Affiliation: Dept. voor Toegepaste, Katholieke Univ. Leuven, Belgium

Journal: Management Science vol.39, no.3 p.387-8

Publication Date: March 1993 Country of Publication: USA

CODEN: MSCIAM ISSN: 0025-1909

U.S. Copyright Clearance Center Code: 0025-1909/93/3903/0387\$01.25

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: One of the necessary and sufficient conditions derived in the paper by F.F. Boctor (ibid. p.798-807 (1982)) for feasibility of a repetitive two-product schedule is that the cycle times ($T_{\text{sub } 1}$ and $T_{\text{sub } 2}$) must be integer multiples of some time interval T (Propositions 2, 3 and 4). This also holds for N-product schedules. However, the commenter points out that the proof for Propositions 3 and 4 in paper is not exactly valid and therefore a correction has to be made. (3 Refs)

Subfile: C

Descriptors: operations research; production control

Identifiers: necessary condition; production control; operations research ; infinite horizon lot scheduling; sufficient conditions; repetitive two-product schedule; cycle times

Class Codes: C1290F (Industry)

20/5/28 (Item 9 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

02849788 INSPEC Abstract Number: C87021471

Title: How MRP II and JIT work together at DuPont

Author(s): Krepchin, I.P.

Journal: Modern Materials Handling vol.41, no.15 p.73-6

Publication Date: Dec. 1986 **Country of Publication:** USA

CODEN: MMHHA2 **ISSN:** 0026-8038

Language: English **Document Type:** Journal Paper (JP)

Treatment: Applications (A)

Abstract: E.I. DuPont de Numours and Co.'s plant at Eagle Run, Delaware is an assembly site for photographic and electronic equipment, with over 200 people involved in manufacturing. A typical product contains about 300 parts ranging from sheet metal pieces to microprocessors. The facility receives 1200 parts per month and maintains over 6000 active parts in **stock**. In 1980 **material control** was manual and master production scheduling performance was 40% at best. Morale was terrible with manufacturing personnel fighting purchasing and vice-versa. The article describes the successive introduction of MRP II, agreements on quality with suppliers, and **JIT inventory control**, and how it has led to a productivity rise of 25%, a fall of cycle time from 6 weeks to 2 days, and production in **lot** sizes as small as a **single item**. (0 Refs)

Subfile: C

Descriptors: assembling; manufacturing industries; production control; **stock control**

Identifiers: photographic equipment; MRP II; **JIT**; E.I. DuPont de Numours and Co.; Delaware; sheet metal pieces; microprocessors; material control; master production scheduling; quality; cycle time

Class Codes: C3355F (Assembling)

Set	Items	Description
S1	506506	(SINGLE? OR INDIVIDUAL? OR SOLE? OR ONE OR ONLY OR LAST OR FIRST) (3N) (ITEM? OR UNIT OR UNITS OR PRODUCT OR PRODUCTS OR MERCHANDIS? OR GOOD OR GOODS OR DEVICE?)
S2	157360	TIMEBUCKET? OR TIME() (BUCKET? OR PERIOD? OR INTERVAL? OR DURATION?)
S3	43374	FIFO OR FIRST(N)OUT OR LIFO OR QUEUE?
S4	1373402	AVAILAB? OR REPLENISH? OR SUSPEND? OR OUT OR ERROR? OR SOURCE? OR EXHAUST? OR EMPTY? OR STATUS OR "IN"() STOCK
S5	2265	JIT OR JUST(N)TIME
S6	22479	S1(10N) (GROUP? ? OR PRODUCTION() RUN? ? OR CLUSTER? OR BUNCH? OR LOT OR LOTS OR BATCH? OR BUNDLE?)
S7	9428	(INVENTORY OR INVENTORIES OR STOCK? ? OR SUPPLY() CHAIN? OR JIT OR JUST(N)TIME) (3N) (CONTROL? OR SOFTWARE? OR PROGRAM? OR MANAGE? OR ADMINIST? OR PROGRAM? OR APPLICATION?)
S8	29	S1(10N)S2(10N)S3
S9	1265	S6(10N)S4
S10	4	S7(10N)S6
S11	41	S6(10N)S4(10N) (S5 OR S3 OR S2)
S12	27	(S8 OR S10 OR S11) AND IC=G06F?
S13	27	IDPAT (sorted in duplicate/non-duplicate order)
S14	27	IDPAT (primary/non-duplicate records only)

File 348:EUROPEAN PATENTS 1978-2004/Dec W01
(c) 2004 European Patent Office

File 349:PCT FULLTEXT 1979-2002/UB=20041209,UT=20041202
(c) 2004 WIPO/Univentio

14/3,K/14 (Item 14 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00987211 **Image available**

SYSTEM AND METHOD FOR MANAGING RESERVATION REQUESTS FOR ONE OR MORE
INVENTORY ITEMS
SYSTEME ET PROCEDE DE GESTION DE DEMANDES DE RESERVATION D'UN OU PLUSIEURS
ARTICLES EN STOCK

Patent Applicant/Assignee:

EXPEDIA INC, 13810 SE Eastgate Way, Suite 400, Bellevue, WA 98005, US, US
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Inventor(s):

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SIEGAL Seth L, 13404 NE 28th Street, Bellevue, WA 98005, US,

Legal Representative:

URIBE Mauricio A (agent), Christensen O'Connor Johnson & Kindness PLLC,
1420 Fifth Avenue, Suite 2800, Seattle, WA 98101-2347, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200317039 A2-A3 20030227 (WO 0317039)

Application: WO 2002US25487 20020809 (PCT/WO US0225487)

Priority Application: US 2001932263 20010817

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI
SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 18656

Main International Patent Class: G06F-017/00

Fulltext Availability:

Detailed Description

Detailed Description

... 1-7). The allotment of blocks of inventory items can be referred to as
batch **inventory**. To **manage** the **batch inventory**, the Web-based
travel service sorts the inventory **items** according to **one** or more
identifying characteristics. For example, distinguishable pieces of hotel
room batch inventory items can...

14/3,K/15 (Item 15 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.

00987186 **Image available**

SYSTEM AND METHOD FOR MANAGING INVENTORY
SYSTEME ET PROCEDE DE GESTION DE STOCK

Patent Applicant/Assignee:

EXPEDIA INC, 13810 SE Eastgate Way, Suite 400, Bellevue, WA 98005, US, US
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MATOS Tomas A D, 2439 204th Terrace NE, Sammamish, WA 98074, US,

Legal Representative:

URIBE Mauricio A (agent), Christensen O'Connor Johnson & Kindness PLLC,
Suite 2800, 1420 Fifth Avenue, Seattle, WA 98101-2347, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200317034 A2-A3 20030227 (WO 0317034)

Application: WO 2002US25388 20020809 (PCT/WO US0225388)

Priority Application: US 2001932441 20010817

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI
SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 19477

Main International Patent Class: G06F-017/60

Fulltext Availability:

Detailed Description

Detailed Description

... 1-7). The allotment of blocks of inventory items can be referred to as
batch **inventory**. To **manage** the **batch inventory**, the Web-based
travel service sorts the inventory **items** according to **one** or more
identifying characteristics. For example, distinguishable pieces of hotel
room batch inventory items can...

14/3,K/18 (Item 18 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.

00872892 **Image available**

NETWORK PROCUREMENT SYSTEM

SYSTEME D'APPROVISIONNEMENT EN RESEAU

Patent Applicant/Inventor:

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VAN DEN BOSCH Carolina Adriana Johanette, Amsterdamseweg 268, NL-1182 HN Anstelveen, NL, NL (Residence), NL (Nationality)

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MAZZAPICA Paul, 5477 Lockport Court, Palm Harbor, FL 34685, US, US (Residence), US (Nationality)

GRECCO Mike, 1275 Mark Drive, Lansdale, PA 19446, US, US (Residence), US (Nationality)

Legal Representative:

POWERS Joseph A (agent), Duane, Morris & Heckscher LLP, One Liberty Place, Philadelphia, PA 19103-7396, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200207008 A1 20020124 (WO 0207008)

Application: WO 2001US13913 20010430 (PCT/WO US0113913)

Priority Application: US 2000200792 20000428

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS
LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ
TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 14956

Main International Patent Class: G06F-017/30

International Patent Class: G06F-017/60

Fulltext Availability:

Detailed Description

Detailed Description

... may be assigned a budget for a specific time period, whether it be a fixed time period (e.g., one calendar month) or a rolling time period (e.g., the last 30 days). Budgets may be delineated by user group, by individual, and/or by product.

As a part of the customer registration process, availability of the product database may be apportioned amongst the user groups. For example, assume a...

14/3,K/25 (Item 25 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.

00579169 **Image available**

COMPUTER IMPLEMENTED PURCHASING SYSTEM WITH AVAILABLE INVENTORY MANAGEMENT
FUNCTIONS
SYSTEME D'ACHAT PAR ORDINATEUR AVEC FONCTIONS DE GESTION DU STOCK
DISPONIBLE

Patent Applicant/Assignee:
AUTOBYTEL COM INC,

Inventor(s):
NOTTAGE Douglas Sanford,
WOLFE Donald Paul Jr,
WAGONER Kevin Joel,
TEDESCO Michael Corey,
RATHWICK Zane Adam,
KLEIN John Erik,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200042542 A2 20000720 (WO 0042542)
Application: WO 2000US1045 20000114 (PCT/WO US0001045)
Priority Application: US 99232188 19990114

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM
EE EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK
SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG
ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU
MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 9570

Main International Patent Class: G06F-017/60

Fulltext Availability:

Claims

Claim

... an inventory management module accessible by said one of said
plurality of sellers, wherein said **inventory management** module is
configured to allow both individual and **batch** modification of said
product
records by said **one** of said plurality of sellers.-

2 The system of Claim 1, wherein said inventory management...

Set	Items	Description
S1	6645155	SINGLE? OR INDIVIDUAL? OR SOLE? OR ONE OR ONLY OR LAST OR - FIRST
S2	5241653	ITEM? OR PRODUCT? OR GOOD? OR UNIT? OR MERCHANDIS?
S3	58584	TIME() (BUCKET? OR INTERVAL? OR DURATION?)
S4	27524	FIFO OR FIRST(N)OUT OR LIFO OR QUEUE?
S5	3836284	AVAILAB? OR REPLENISH? OR SUSPEND? OR OUT OR ERROR? OR SOURCE? OR EXHAUST? OR EMPTY? OR STATUS OR "IN"() STOCK
S6	1049	JIT OR JUST(N)TIME
S7	1068352	GROUP? ? OR PRODUCTION()RUN? ? OR CLUSTER? OR BUNCH? OR LOT OR LOTS OR BATCH? OR BUNDLE?
S8	80	S1 AND S2 AND S3 AND S4
S9	10	S7 AND S8
S10	58	S2 AND S3 AND S4 AND S5
S11	0	S2 AND S6 AND S4
S12	1	S6 AND S4
S13	1	S1 AND S2 AND S3 AND S6
S14	0	S6 AND S7 AND S3 AND S4
S15	245	S1 AND S2 AND S4 AND S5 AND S7
S16	2	S15 AND (S3 OR S6)
S17	3	S8 AND IC=(G06F-017? OR G06F-007?)
S18	62	(S8 OR S10) AND IC=G06F?
S19	8184	(INVENTORY OR INVENTORIES OR STOCK? ? OR SUPPLY()CHAIN? OR JIT OR JUST(N)TIME?) (3N) (MANAGE? OR CONTROL? OR ADMINIST? OR - PROGRAM?)
S20	3	(S8 OR S10) AND IC=(G06F-017? OR G06F-007?)
S21	162	S7 AND S1 AND S19
S22	2	S4 AND S21
S23	2	S3 AND S21
S24	79386	S2(2N)S5
S25	5	S21 AND S24
S26	22	S9 OR S12 OR S13 OR S16 OR S17 OR S20 OR S23 OR S22 OR S25
S27	22	IDPAT (sorted in duplicate/non-duplicate order)
S28	22	IDPAT (primary/non-duplicate records only)

File 347:JAPIO Nov 1976-2004/Aug(Updated 041203)

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File 350:Derwent WPIX 1963-2004/UD,UM &UP=200480

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28/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011089946 **Image available**
WPI Acc No: 1997-067871/199707
XRPX Acc No: N97-055818

Inventory control system for allocating items of inventory - has
second generating device for generating computer signals of
representative data of second portion as second matrix array of n rows
and m columns

Patent Assignee: HYATT CORP (HYAT-N)
Inventor: DOWLING K; KERR G S; SNYDER T; WILLENBORG J
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
IE 70237	B	19961113	IE 912865	A	19910813	199707 B

Priority Applications (No Type Date): IE 912865 A 19910813

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
IE 70237	B	27	G06F-015/20	

Abstract (Basic): IE 70237 B

The system includes a computer contg a memory for storing
information representative of gp of inventory items. The memory
includes a **first** portion for storing a data in it that is
representative of total max inventory of inventory **items** **available**
for potential use. A second portion of the memory is used for storing
data representative of protected inventory items if the **groups**.

A **first** generating device is provided for generating computer
signals of the representative data of the **first** portion as a **first**
matrix array of n rows and m columns. A second generating device is
used for generating computer signals of the representative data of the
second portion as a second matrix array of n rows and m columns. Each
row and column define specific, unique **first** and second
characteristics and their confluence between them representing blocked
available inventory for specific **group**.

USE/ADVANTAGE - In hotel service management systems. Provides best
possible target for sophisticated yield management system.

Dwg.2/2

Title Terms: INVENTORY; CONTROL; SYSTEM; ALLOCATE; ITEM; INVENTORY; SECOND;
GENERATE; DEVICE; GENERATE; COMPUTER; SIGNAL; REPRESENT; DATA; SECOND;
PORTION; SECOND; MATRIX; ARRAY; N; ROW; COLUMN

Derwent Class: T01; T02

International Patent Class (Main): G06F-015/20

International Patent Class (Additional): G06G-007/52

File Segment: EPI

28/5/6 (Item 6 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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010378994 **Image available**
WPI Acc No: 1995-280308/199537

**Production ratio control method for multi-kind production system -
involves using production correction indication process that determines
and directs quality and kind of product based on judgement result of
production situation quality judging process**

Patent Assignee: TOYOTA JIDOSHA KK (TOYT)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 7178653	A	19950718	JP 94129013	A	19940610	199537 B

Priority Applications (No Type Date): JP 93283391 A 19931112

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 7178653	A		27	B23Q-041/08	

Abstract (Basic): JP 7178653 A

The method involves detecting and **controlling** variation in the **stock** of a product in a multi-kind production system. A production device (M4) performs the production of a particular kind of product in **lots** . A product receipt device contains the products produced by the reduction device for every kind of product. The production ratio of **one** kind of product is controlled, based on the production scheme. The number of articles produced in each kind of product is determined by the production indication data in the production device.

The number of articles taken **out** from the **product** receipt device (M8) is also detected. A number of articles produced in each kind of product from the production and product receipt devices is calculated. The production situation quality judging process compares the production and standard production ratios computed from the number of articles and judges the quality of production situation. The production correction indication process determines and directs quality and kind of product, based on the judgment result from the production situation quality judging process.

ADVANTAGE - Detects and **controls** variation in **stock** fasts.
Reduces variation in **stock** . Improves **production** ratio **management**

Dwg.1/24

Title Terms: PRODUCE; RATIO; CONTROL; METHOD; MULTI; KIND; PRODUCE; SYSTEM;
PRODUCE; CORRECT; INDICATE; PROCESS; DETERMINE; DIRECT; QUALITY; KIND;
PRODUCT; BASED; JUDGEMENT; RESULT; PRODUCE; SITUATE; QUALITY; JUDGEMENT;
PROCESS

Derwent Class: P56; T01

International Patent Class (Main): B23Q-041/08

International Patent Class (Additional): G06F-017/60

File Segment: EPI; EngPI

28/5/7 (Item 7 from file: 350)
DIALOG(R) File 350: Derwent WPIX
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010245750 **Image available**
WPI Acc No: 1995-147005/199519
XRPX Acc No: N95-115424

Inventory control system used by e.g. airline seat reservation
system, hotel chain - involves handling total control centrally, central
indicators and distributed inventory, totally distributed inventory or
mixed mode of operation

Patent Assignee: HYATT CORP (HYAT-N)
Inventor: DOWLING K; KERR G S; SNYDER T; WILLENBORG J
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5404291	A	19950404	US 89439253	A	19891120	199519 B
			US 91689662	A	19910423	

Priority Applications (No Type Date): US 89439253 A 19891120; US 91689662 A
19910423

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5404291	A	69	G06F-015/00	Cont of application US 89439253

Abstract (Basic): US 5404291 A

The **inventory - control** system includes **inventory** comprising a number of different **groups** of inventory items. Each **group** has inventory items which are uniquely characterized from an inventory item in another **group**. Each the inventory item has two characteristics, with **one** characteristic being equal to a characteristic of another inventory item of another **group**. A computer stores information representative of the **group** of inventory items and each the inventory item in a respective the **group**.

The memory has a portion for storing data representative of the total maximum inventory of inventory **items available** for potential use. A second portion stores data representative of protected inventory items in the **groups**. Computer signals of the representative data of the **first** portion are generated as a **first** matrix array of n rows by m columns. Each row defines a specific, unique the **first** characteristic and each column defines a specific, unique the second characteristic. The confluence represents the maximum potentially **available** the inventory **items** for the specific the **group**. Computer signals of the representative data of the second portion are generated as a second matrix array of n rows and m columns. Each row defines a specific, unique **first** characteristic and each column defines a specific, unique second characteristic, the confluence therebetween representing the blocked available inventory for the specific the **group**.

ADVANTAGE - Allows **inventory** to be **controlled** by property and sold at any location without over-selling.

Dwg. 2/2

Title Terms: INVENTORY; CONTROL; SYSTEM; AIRLINE; SEAT; RESERVE; SYSTEM;
HOTEL; CHAIN; HANDLE; TOTAL; CONTROL; CENTRAL; CENTRAL; INDICATE;
DISTRIBUTE; INVENTORY; TOTAL; DISTRIBUTE; INVENTORY; MIX; MODE; OPERATE

Derwent Class: T01

International Patent Class (Main): G06F-015/00

File Segment: EPI

28/5/16 (Item 16 from file: 347)
DIALOG(R)File 347:JAPIO
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07410992 **Image available**
AUTOMATIC VENDING MACHINE

PUB. NO.: 2002-279502 [JP 2002279502 A]
PUBLISHED: September 27, 2002 (20020927)
INVENTOR(s): MATSUMOTO HIROSHI
APPLICANT(s): JAPAN TOBACCO INC
APPL. NO.: 2001-073372 [JP 200173372]
FILED: March 15, 2001 (20010315)
INTL CLASS: G07F-009/00

ABSTRACT

PROBLEM TO BE SOLVED: To provide an automatic vending machine capable of facilitating **inventory control** of commodities and commodity replenishing work for a plurality of commodity columns which are set as a **group**, while keeping the principle of **first-in first-out** of the commodities for the commodity columns.

SOLUTION: The automatic vending machine comprises a column indication means (pointer P) and a dispensing managing means (shift of pointer). The column indication means (pointer P) specifies in an alternative way the commodity column for dispensing the commodities in the plurality of commodity columns which are set as a **group**, when the plurality of commodity columns for accommodating the commodities having the same brand are set as a commodity sales **group**. The dispensation managing means (shift of pointer) changes the commodity column for dispensing the commodities to another commodity column in the **group** which is not sold-out, when the commodity column specified by the column indication means is sold-out.

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28/5/20 (Item 20 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

04360658 **Image available**
COST CONTROLLER

PUB. NO.: 06-004558 [JP 6004558 A]
PUBLISHED: January 14, 1994 (19940114)
INVENTOR(s): OOHATA FUMITSUGU
APPLICANT(s): HOKURIKU NIPPON DENKI SOFTWARE KK [000000] (A Japanese
Company or Corporation), JP (Japan)
APPL. NO.: 04-165662 [JP 92165662]
FILED: June 24, 1992 (19920624)
INTL CLASS: [5] G06F-015/24; G06F-012/00
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 45.2
(INFORMATION PROCESSING -- Memory Units)
JOURNAL: Section: P, Section No. 1724, Vol. 18, No. 200, Pg. 105,
April 07, 1994 (19940407)

ABSTRACT

PURPOSE: To easily grasp the accurate sales cost by controlling these cost in a **FIFO** method and with use of a stock file having plural records to a **single** commodity and a sales file having a sales record including the purchase information.

CONSTITUTION: The input data supplied from a keyboard 1 are allocated from a stock file having a **group** structure set at a file part 9 of a memory 8 based on the dates set at a deciding means 6 and a setting part 10, the index information on each updated file, and an arithmetic means 7 of a control part 5. Then, a master record which **controls** the total **stock** is updated and the sales records are produced in the number equal to the allocated stock records. Then, the allocated stock information is set to each sales record.